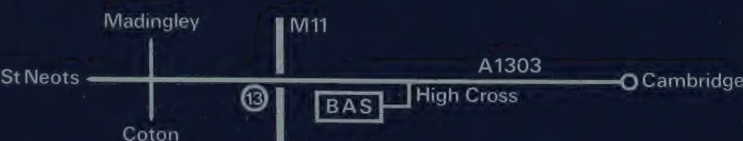


British Antarctic Survey



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The British Antarctic Survey, a component body of the Natural Environment Research Council, is responsible for British scientific research in the British Antarctic Territory and Falkland Islands Dependencies — a total land area of about 700,000 square miles. 97% of this area is permanently ice-covered and for much of the year the surrounding seas are frozen or choked with pack ice, preventing access to the coast.

The Survey began in 1943 under naval auspices and from 1946 onwards was controlled by the Colonial Office and Foreign and Commonwealth Office. It was transferred to the NERC in April 1967. Two Antarctic stations were established at the beginning of 1944 and 17 more in the ensuing years, six of them being occupied at present by a total wintering party of about 70 men. There are also several minor stations and a number of field huts which are used by additional summer field parties. (It is impossible to carry out most field work in the winter darkness and blizzards, but work at the stations — notably observatory geophysics — continues throughout the whole year.)

This is a key area for scientific work and BAS activities, which have continued without interruption since 1944, now cover a very wide range of disciplines and environments. Two of the permanent stations are geophysical observatories (one of them on the edge of the polar plateau) and two are biological stations. Another station is a centre for geology, glaciology and field geophysics over the Antarctic Peninsula area and inland areas. The sixth station, on the sub-Antarctic island of South Georgia, now has a much reduced scientific programme. Research is also carried out by Medical Officers at the bases. Men and supplies are taken to the Antarctic each southern summer in two specially designed ice-strengthened ships, the Royal Research Ships *John Biscoe* and *Bransfield*, and then transported to the more remote localities by two De Havilland Twin Otter aircraft.



Faraday geophysical observatory, Argentine Islands (lat. 65°15'S, long. 64°16'W), off the west coast of the Antarctic Peninsula.



Twin Otter aircraft supplying geologists, glaciologists and geophysicists at Sibelius Depot, Alexander Island.

When the annual relief has been completed, the ships undertake biological, geophysical and hydrographical surveys, and transport summer field parties to otherwise inaccessible places. *John Biscoe* has recently been re-engined and converted into a marine biological research ship. Her main role now is participation in the Offshore Biological Programme, investigating the seas in the vicinity of South Georgia.

The amount of sea ice varies greatly from year to year and place to place, and this can make relief work very difficult. American satellite imagery is used to find routes through the ice, and reconnaissance flights by BAS aircraft also provide useful information.

The aircrafts' task is to support field parties by laying depots and transporting men with their vehicles (motor toboggans) and equipment. They also carry out important airborne radio echo ice-depth sounding and magnetometer surveys. They are based at the station on Adelaide Island off the west coast of the Antarctic Peninsula during the summer and return to Canada for overhaul during the southern winter.

International co-operation

Since the International Geophysical year, 1957–58, for which the Antarctic was selected as a special study area by 12 nations, BAS work has been carried out in an international context. The spirit of co-operation, which characterized the IGY, resulted in the signing of the Antarctic Treaty by the 12 nations in 1959 and it has since been acceded to by twelve others. The Treaty covers the region south of lat. 60°S. Under its terms, the continent is used for peaceful purposes only; claims to territorial sovereignty are left in abeyance and continued freedom of scientific investigation and international co-operation are promoted.

Until recently, Antarctic activities have been concerned almost exclusively with pure science but, with increasing world demand for food and minerals, there is increasing interest in possible Antarctic resources. Attention is now being focussed on the living resources of the Southern Ocean, and it has been estimated that it might be possible to harvest many million tons of the shrimp-like krill without depleting stocks — a significant addition to the total world catch of fish and Crustacea. This gives increasing urgency to scientific research — to provide a sound basis for any management policy in order to avoid over-exploitation.

Some coal deposits are known inland but they are in extremely inhospitable and inaccessible places and extend under great thicknesses of permanent ice. It is unlikely that it will be economic to exploit them in the foreseeable future.

International groups of Antarctic scientists have been studying the implications of these developments and are trying to ensure that any exploitation will be subject to rational control and that impact on the environment will be kept to a minimum.

BAS headquarters

All aspects of the work, both scientific and logistic, are organized by the BAS headquarters in Cambridge, and constant communication is maintained between headquarters, the Antarctic stations and ships by radio teleprinter and emergency telegraphy.



A high-density beach of Antarctic fur seals at Bird Island, off South Georgia.



Sediment coring in George VI Sound to investigate the sea bed below an ice shelf.

The headquarters organization consists of four divisions — an Administration Division, which is responsible for co-ordination, logistics, recruiting, finance and publications, and three scientific divisions covering Atmospheric Sciences, Earth Sciences and Life Sciences. Each scientific division is subdivided into several sections, including a section head, one or two scientific assistants and up to five contract scientists. The latter are usually recent graduates, recruited for about 5 years. In the Atmospheric and Life Sciences Divisions, an initial training period in the United Kingdom is followed by 2½ years in the Antarctic and a further period up to 2 years in the United Kingdom completing the research for publication. For the earth scientists, summer field work in the Antarctic alternates with laboratory work in the United Kingdom and preparation for the next season. Mapping is undertaken by the Directorate of Overseas Surveys and the Hydrographic Department of the Ministry of Defence. Close contact is also maintained with university departments at Aberdeen, Leicester, Sheffield and elsewhere. Medical services and research are now organized by the Institute of Environmental and Offshore Medicine of the University of Aberdeen.

The four divisions were formerly scattered around the country: the administrative office was in London and the scientific divisions were housed at various universities and research institutes. It was not until 1976 that they were able to come together in a new headquarters building, which was officially opened by HRH The Duke of Edinburgh. A commemorative stone (collected in the Antarctic) marking this event is set in the floor of the entrance hall. The building had been specially designed and built for the Survey and is fully equipped with laboratories, workshops, a small library, archives room, conference room, and a computer.

Publications

The scientific results of most of the Survey's work are supplied to World Data Centres and published in the *British Antarctic Survey Scientific Reports* and the *British Antarctic Survey Bulletin*. Papers also appear in other appropriate scientific and technical journals. A general booklet entitled *British Antarctic Survey* gives a general account of the history and work of the organization, and a series of post-cards show the BAS Antarctic bases, ships and aircraft, and scientific activities. The achievements of the Survey are recorded in the *British Antarctic Survey Annual Reports*. All of these BAS publications are on sale to the public.



British Antarctic Survey stations. Britain is shown on the same scale.